

REMARKS

This responds to the Office Action mailed on January 27, 2005.

Claim 5 is amended. No claims are canceled or added. As a result, claims 1-16 remain pending in this application.

Information Disclosure Statement

Applicant submitted an Information Disclosure Statement and a 1449 Form on February 5, 2003 and a Supplemental Information Disclosure Statement and a 1449 Form on January 30, 2004 and January 21, 2005. Applicant respectfully requests that initialed copies of the 1449 forms be returned to Applicants' Representatives to indicate that the cited references have been considered by the Examiner.

1. Real Party In Interest

The real party in interest of the above-captioned patent application is the Assignee, Kanisa, Inc., which is presently doing business as Knova Software, Inc. pursuant to a corporate name change to be ratified by shareholders on May 24, 2005.

2. Related Appeals and Interferences

There are no other appeals or interferences known to Appellant that will have a bearing on the Board's decision in an appeal of this matter.

3. Status of the Claims

Claims 1-16 are currently pending in this patent application. A Final Office Action was mailed on January 27, 2005. Claims 1-16 stand finally rejected, and their rejection is the subject of the appeal of this matter.

4. Status of Amendments

Claim 5 has been amended after the Final Office Action to correct a minor grammatical error and, therefore, to put claim 73 in better condition for appeal.

5. Summary of Claimed Subject Matter

Independent claims 1 and 2 respectively relate to a computer-assisted method and a computer readable medium for detecting content holes. A content body (*see, e.g.*, FIG. 1 at 115) is parsed into a plurality of concept nodes (*see, e.g.*, FIG. 3 at 305), including a first concept node. A percentage of successful service interactions (*see, e.g.*, Application at page 5, lines 10-20) is determined as a function of concept node (*see, e.g.*, Application at page 13, lines 2-4). If the percentage of successful service interactions at the first concept node is below a predefined threshold, a content hole is flagged. (*See, e.g.*, Application at page 13, lines 5-10).

Independent claim 3 relates to a computer-assisted method of charging for services. A percentage of successful service interactions is determined for a typical information retrieval system. A percentage of successful service interactions for services provided in the defined information retrieval system is also determined. Billing is determined as a function of the difference between the percentage of successful service interactions in a typical information retrieval system and the percentage of successful service interactions for services provided in the defined information retrieval system. (*See* Application at page 27, lines 21-28).

Independent claim 5 relates to a computer readable medium having instructions that, when executed in a computer, implement a method. The method includes parsing a content body (*see, e.g.*, FIG. 1 at 115) into a plurality of concept nodes (*see, e.g.*, FIG. 3 at 305), including a first concept node. A percentage of successful service interactions (*see, e.g.*, Application at page 5, lines 10-20) is determined as a function of each concept node (*see, e.g.*, Application at page 13, lines 2-4). Billing is determined as a function of the difference between the percentage of successful service interactions in a typical information retrieval system and the percentage of successful service interactions for services provided in the defined information retrieval system that includes weighting successful interactions as a function of concept node. (*See* Application at page 28, lines 6-13).

Independent claim 6 relates to a computer-assisted method for detecting content holes. A content body (*see, e.g.*, FIG. 1 at 115) is parsed into a plurality of concept nodes (*see, e.g.*, FIG. 3 at 305), including a first concept node. A percentage of successful service interactions (*see, e.g.*, Application at page 5, lines 10-20) is determined as a function of the concept nodes. A percentage of queries is determined as a function of the concept nodes. A percentage of

documents is determined as a function of concept node. A content hole score is computed for the first concept node as the function of at least one of the percentage of successful service interactions, the percentage of queries, and the percentage of documents. (*See* Application at page 26, line 25 – page 27, line 7). A content hole is flagged if the content hole score is below a predefined threshold.

Independent claim 7 relates to a computer-assisted method of charging for services. The method includes determining a number of successful service interactions in an information retrieval system over a period of time. The billing is determined as a function of the number of successful service interactions in the information retrieval system over the period of time. (*See, e.g.*, Application at page 27, line 28 – page 28, line 1).

This summary does not provide an exhaustive or exclusive view of the present subject matter, and Appellant refers to the appended pending claims and their legal equivalents for a complete statement of the invention.

6. Grounds for Rejection to Be Reviewed on Appeal

- 1) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 1-2, 6, 8-9, 13-14, 16 and Getchius et al. (U.S. Patent No. 6,643,640) in view of Wagstaff et al. (U.S. Patent No. 6,360,213)?

- 2) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 3-5, 7, 10-12, 15 and Getchius et al. (U.S. Patent No. 6,643,640) in view of Papierniak et al. (U.S. Patent No. 6,151,584)?

7. Argument

A) The Applicable Law

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single prior art reference of each element of the claim under consideration. *See Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather,

“[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). “The *identical invention* must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131 (emphasis added). In interpreting the claims it is widely recognized that a patentee is free to be his own lexicographer. *See, e.g., Autogiro Co. of America v. United States*, 384 F.2d 391,397 (Ct. Cl. 1967). However, unless a special definition is clearly stated in the patent specification or prosecution history, claim terms are to be given their ordinary and customary meaning in the field of the invention. *See Vitronics*, 90 F.3d at 1582, 39 U.S.P.Q.2d at 1576.

The Examiner also has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references. *Id.* The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d (BNA) 1443 (Fed. Cir. 1992). However, while it is not necessary that the cited references or prior art

specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 U.S.P.Q.2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 U.S.P.Q. 171, 174 (C.C.P.A. 1979)). However, the level of skill is not that of the person who is an innovator but rather that of the person who follows the conventional wisdom in the art. *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 474, 227 U.S.P.Q. 293, 298 (Fed. Cir. 1985). The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002), which notes that the motivation must be supported by evidence in the record.

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985). References must be considered in their entirety, including parts that teach away from the claims. See MPEP § 2141.02. The fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01.

B) The References

Getchius: The Getchius reference discusses systems and methods for performing data queries using a distributed computer system with a plurality of redundant “server nodes” that are capable of processing a user query request. (See Getchius at Abstract). Thus, Getchius’ “server nodes” are clearly pieces of computer hardware. The data queries are performed by the hardware server nodes using an adaptive partitioning technique. Getchius apparently does not describe, teach, or suggest using abstract “concept nodes” representing concepts in a knowledge map, and the hardware “server nodes” of Getchius would not reasonably be construed by one of ordinary skill in the art as encompassing such abstract “concept nodes.”

Wagstaff: The Wagstaff reference discusses indexes used in database tables. (See Wagstaff at column 1, line 21). Wagstaff apparently does not disclose, teach, or suggest using abstract concept nodes in a knowledge map. Instead, Wagstaff apparently deals with a completely different subject, that is, hybrid target indexes, i.e., indexes that represent two different index values in very different ways to accommodate highly skewed data set domains. (See *id.* at Abstract).

Papierniak: The Papierniak reference discusses collecting and validating data and metadata by providing a customer with a questionnaire to collect customer data, which is then separated into environmental data and business data. (See Papierniak at Abstract.) Core business rules and core data sources are identified, corresponding to information source requirements, and used to analyze the data (See *id.* at column 23, line 45 – column 24 line 4.) Papierniak also briefly discusses billing (*see id.* at column 24, lines 34-41), such as where the business data includes “at least one of pre-paid subscriber data, how the subscriber purchases services and products, subscriber discounts, billing rates, subscriber free subscriptions, and information.”

C. *Discussion of the Rejections*

C.1 The rejection of claims 1-2, 6, 8-9, 13-14, 16 using Getchius and Wagstaff

Appellant respectfully traverses this rejection. The January 27, 2005 Final Office Action states:

As per claims 1, Getchius disclose an information retrieval application, a computed assisted method for detecting content holes, comprising: parsing a content body into a plurality of concept nodes. (“i.e., “server nodes” see column 4 lines 38-65) including a first (“i.e., “first node” see column 1 line 58 – 65) concept node (see column 1 line 58 – 65) . . .

(Final Office Action at 2.) Appellant respectfully disagrees with the Office Action’s assertion that the cited portions of the Getchius reference show parsing a content body into a plurality of “concept nodes,” such as the “concept nodes” recited or incorporated in the rejected claims 1-2, 6, 8-9, 13-14, and 16. The present patent application provides, among other things, an example explaining how pieces of information content are parsed to “concept nodes,” that is, nodes representing concepts in the body of knowledge being parsed. (See, e.g., Application at page 13, lines 18 – 23 and FIG. 3.)

By contrast, the cited portions of the Getchius reference apparently refer to computer hardware “server nodes” and not to the abstract “concept nodes” of these rejected claims. (See, e.g., Getchius at column 4, line 56; column 1, line 64). In fact, Appellant cannot find in the cited portions of Getchius any disclosure, teaching, or suggestion of “concept nodes,” or of parsing a content body into “concept nodes.” The Office Action fails to provide any explanation of how the computer hardware “server nodes” in the cited portions of Getchius could reasonably be construed as abstract “concept nodes.”

Consider this: the Getchius abstract explains that its hardware “server nodes” must be capable of processing a user query request. (See Getchius at Abstract.) How could the presently claimed abstract “concept nodes” be capable of performing such processing? They cannot, of course. Instead, as one of ordinary skill in the art would understand, the present concept nodes merely represent abstract concepts to which information in a knowledge corpus can be tagged. This is a completely different thing than the hardware “server nodes” in Getchius relied upon by the Final Office Action to improperly reject the present claims. Appellant recognizes that the Patent Office is allowed to construe claim terms in the broadest reasonable manner. However, Appellant respectfully submits that equating hardware “server nodes” to abstract “concept nodes” representing concepts in a knowledge base is not a reasonable interpretation of the term “concept nodes.”

Because “concept nodes” are entirely absent from the cited portions of Getchius, it follows that Appellant cannot find in the cited portions of Getchius any disclosure, teaching, or suggestion of determining a percentage of successful service interactions as a function of concept node, as recited or incorporated in claims 1-2 and 6. Similarly, Appellant cannot find in the cited portions of Getchius any disclosure, teaching, or suggestion of flagging a content hole if the percentage of successful service interactions at a particular concept node is below a predefined threshold, as also recited or incorporated in claims 1-2 and 6.

Moreover, regarding claim 6, Appellant cannot find in the cited portions of Getchius any disclosure, teaching, or suggestion of determining a percentage of queries as a function of the “concept nodes,” determining a percentage of documents as a function of “concept node,” and computing a content hole score for the first “concept node” as a function of at least one of the successful services interactions, the percentage of queries, and the percentage of documents.

The Office Action also asserts that Wagstaff teaches “flagging a content hole. . . in order to detect and identify data that falls below a certain level.” (*See* Final Office Action at 4.) Appellant respectfully traverses this basis of rejection. Wagstaff apparently deals with a completely different subject, that is, hybrid target indexes, i.e., indexes that represent two different index values in very different ways to accommodate highly skewed data set domains. (*See* Wagstaff at Abstract). Moreover, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Wagstaff or Getchius of parsing a content body into “concept nodes,” as discussed above, and as recited or incorporated in claims 1-2, 6, 8-9, 13-14, and 16. Therefore, even assuming that the cited portions of Wagstaff could somehow be construed as showing the flagging of a content hole, it cannot constitute flagging a content hole for a particular “concept node,” as recited or incorporated in claims 1-2, 6, 8-9, 13-14, and 16.

Similarly, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Wagstaff or Getchius of determining a percentage of successful service interactions as a function of concept node, as recited or incorporated in claims 1-2, 6, 9, 14, and 16. The present patent application explains that a successful service interaction (SSI) is one in which returned content (e.g., in response to a customer inquiry) matches that user’s intent. However, the Final Office Action simply deems an SSI as somehow constituting “corresponding data sets, See column 26, lines 5 – 15” of Getchius.” (*See* Final Office Action at 4.) Not only is any notion of “corresponding data sets” absent from this cited portion of Getchius, the Final Office Action has not explained how “corresponding data sets” could somehow constitute a successful service interaction as used in the context of the present patent application. By contrast, the present patent application, by describing how determining a percentage of successful service interactions as a function of concept node, allows content “holes” at particular concept nodes to be identified so that the knowledge base can be repaired to more successfully meet the needs of subsequent users.

Moreover, the Final Office Action has not cited any motivation actually presented in Wagstaff or Getchius for combining these references in the manner suggested in the Office Action. In the absence of any such motivation from the references themselves, or a clearly delineated motivation for such combination drawn from the art in general, Appellant respectfully

submits that the combination amounts to impermissible hindsight based on the Appellant's own disclosure.

Because Appellant cannot find the recited or incorporated "concept nodes" in the cited portions of Getchius, and because no motivation for combining these references is drawn from the references themselves or from the art in general, Appellant respectfully submits that all elements of the present claims have not been properly established in the cited combination of references. Therefore, Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to the rejection claims. Accordingly, Appellant respectfully requests reversal of this basis of rejection of claims 1-2, 6, 8-9, 13-14, and 16.

C.2 The rejection of claims 3-5, 7, 10-12 and 15 using Getchius and Papierniak

Appellant respectfully traverses this rejection.

First, Appellant respectfully disagrees with the Office Action's assertion that Getchius somehow discloses determining a percentage of successful service interactions (SSIs). The present patent application explains that a successful service interaction (SSI) is one in which returned content (e.g., in response to a customer inquiry) matches that user's intent. However, the Final Office Action simply deems an SSI as somehow constituting "corresponding data sets" citing Getchius at column 25, lines 55-65 and column 26, lines 5 – 15. (See Final Office Action at 7.) Not only is any notion of "corresponding data sets" absent from the cited portion of Getchius, the Office Action has not articulated how "corresponding data sets" could somehow constitute a successful service interaction as used in the context of the present patent application.

Second, even if Getchius could somehow be construed as showing determining a percentage of SSIs, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Getchius or Papierniak of billing (charging a customer) as a function of the difference between the percentage of successful service interactions in a typical information retrieval system and the percentage of successful service interactions for services provided in the defined information retrieval system, as recited or incorporated in claims 3-5. Instead, the cited portions of Papierniak merely states:

5. A method of collecting subscriber specified information for supporting retrieval of information in analyzing Internet and/or electronic commerce data over or from the World Wide Web for service providers according to claim 1, wherein the business data includes at least one of pre-paid subscriber data, how

the subscriber purchases services and products, subscriber discounts, billing rates, subscriber free subscriptions, and information.

(Papierniak at column 24, lines 34 – 42.) Appellant respectfully submits that, despite the Final Office Action’s conclusory contrary assertion, nothing in this cited portion of Papierniak even suggests charging a customer based on a difference between the percentage of SSIs in a typical information retrieval system, and the percentage of SSIs in the particular information retrieval system, as recited or incorporated in claims 3-5, 10-12. Similarly, nothing in this cited portion of Papierniak even suggests charging a customer based on a number of SSIs in an information retrieval system, as recited or incorporated in claims 7 and 15.

Because Getchius and Papierniak fail to disclose, teach, or suggest all elements of claims 3-5, 7, 10-12, and 15, Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to these claims. Accordingly, Appellant respectfully requests reversal of this basis of rejection of these claims.

8. Summary

In summary, because Getchius and/or Wagstaff fail to disclose abstract “concept nodes” (which is distinct from hardware “server nodes”), or to disclose determining a percentage of successful service interactions as a function of concept node, and because no motivation to combine Getchius and Wagstaff is found in the references themselves or explained from the art in general, Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to claims 1-2, 6, 8-9, 13-14, and 16.

Similarly, because Getchius and/or Papierniak fail to disclose determining a percentage of successful service interactions (SSIs), billing (charging a customer) as a function of the difference between the percentage of successful service interactions in a typical information retrieval system and the percentage of successful service interactions for services provided in the defined information retrieval system, or charging a customer based on a number of SSIs in an information retrieval system Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to claims 3-5, 7, 10-12, and 15.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 09/911,839

Filing Date: July 23, 2001

Title: SYSTEM AND METHOD FOR MEASURING THE QUALITY OF INFORMATION RETRIEVAL

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Dkt: 1546.007US1

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6951 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By their Representatives,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 27 day of April, 2005.

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